CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory
An ISO 9001:2008 Certified Company
NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W No.01/MSV/WMM/Gradation/2015-16

28.08.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.

Agency : **Mr. M.S. Venkatesh,** Contractor, Bangalore.

Name of Work : Providing pot hole filling and patch work at Yelahanka old town area Maruthinagara areas and other areas in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/YSD/AE-1/163/2015-16 Dated: 12.08.2015

Date of Testing : 28.08.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 8635

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	200	200	2.3	97.7	95-100
22.4	3155	3355	38.9	61.1	60-80
11.2	1495	4850	56.2	43.8	40-60
4.75	1150	6000	69.5	30.5	25-40
2.36	850	6850	79.3	20.7	15-30
0.600	755	7605	88.1	11.9	8-22
0.075	725	8330	96.5	3.5	0-8

Note:

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

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Job No.: CTCE/BBMP/W.No.01/MSV/WMM/AIV/2015-16

28.08.2015

Aggregate Impact Value
IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
Agency	**Mr. M.S. Venkatesh,** Contractor, Bangalore.
Name of the Work	Providing pot hole filling and patch work at Yelahanka old town area Maruthinagara areas and other areas in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/YSD/AE-1/163/2015-16 Dated: 12.08.2015
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	28.08.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	390	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	89	90	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines	22.88	23.08	
	$100^* (W_2/W_1)\%$			22.98

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No. CTCE/BBMP/W.No.01/MSV/WMM/S-T/2015-16 28.08.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
Agency	**Mr. M.S. Venkatesh,** Contractor, Bangalore.
Name of Work	Providing pot hole filling and patch work at Yelahanka old town area Maruthinagara areas and other areas in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/YSD/AE-1/163/2015-16 Dated: 12.08.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	28.08.2015

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Result : Flakiness Index = **11.50%**

Elongation Index = **13.95%**

Result : Combined Flakiness & Elongation index 25.45%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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JobNo: CTCE/BBMP/W.No.01/MSV/BC/Bitumen/2015-16 15.09.2015

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
AGENCY	**Mr. M.S. Venkatesh,** Contractor, Bangalore.
NAME OF THE WORK	Providing pot hole filling and patch work at Yelahanka old town area Maruthinagara areas and other areas in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/YSD/AE-1/163/2015-16 Dated: 12.08.2015
SAMPLE I/D	Pot hole filling roads in Yelahanka old town area, Maruthinagara Area Ward No.01.
DATE OF TESTING	15.09.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474.5	472
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g (corrected)	25.5	28.00
7. Bitumen content in %	5.10	5.60
8. Average	5.35	

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JobNo: CTCE/BBMP/W.No.01/MSV/BC/Bitumen/2015-16 15.09.2015

BITUMEN CONTENT AFTER GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IS 2386 and IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
AGENCY	Mr. M.S. Venkatesh, Contractor, Bangalore.
NAME OF THE WORK	Providing pot hole filling and patch work at Yelahanka old town area Maruthinagara areas and other areas in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/YSD/AE-1/163/2015-16 Dated: 12.08.2015
SAMPLE I/D	Pot hole filling roads in Yelahanka old town area, Maruthinagara Area Ward No.01.
DATE OF TESTING	15.09.2015

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	45.65	9.62	9.62	90.38	79-100
9.5	33.28	7.01	16.63	83.37	70-88
4.75	70.29	14.81	31.45	68.55	53-71
2.36	71.65	15.10	46.55	53.45	42-58
1.18	53.26	11.22	57.77	42.23	34-48
0.6	64.52	13.60	71.37	28.63	26-38
0.3	44.95	9.47	80.84	19.16	18-28
0.15	25.95	5.47	86.31	13.69	12-20
0.075	39.65	8.36	94.67	5.33	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	34.65	7.34	7.34	92.66	79-100
9.5	40.22	8.52	15.86	84.14	70-88
4.75	71.22	15.09	30.95	69.05	53-71
2.36	65.32	13.84	44.79	55.21	42-58
1.18	69.65	14.76	59.55	40.45	34-48
0.6	40.58	8.60	68.14	31.86	26-38
0.3	36.65	7.76	75.91	24.09	18-28
0.15	41.22	8.73	84.64	15.36	12-20
0.075	43.36	9.19	93.83	6.17	4-10

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For M/s Civil-Tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com